



The National DNA Data Bank of Canada

Annual Report | 2005-2006



Royal Canadian Mounted Police
Gendarmerie royale du Canada

Canada



www.nddb-bndg.org

National DNA Bank of Canada

Forensic Science and Identification Services, Royal Canadian Mounted Police
P.O. Box 8885, 1200 Vanier Parkway, Ottawa, Ontario K1G 3M8

Table of Contents

Message from the Minister, Public Safety and Emergency Preparedness Canada.....	4
Message from the Commissioner, Royal Canadian Mounted Police.....	5
Executive Summary.....	6
Harnessing the Power of DNA Analysis.....	9
History of DNA Legislation in Canada.....	10
The National DNA Data Bank.....	11
Process for Reporting and Confirming Matches.....	13
The Working Science.....	15
National DNA Data Bank Advisory Committee.....	17
Key Statistics.....	19
Financial Statement.....	22
Training.....	23
A Prosecutor's Perspective.....	24
Success Story 1: A Missing Person Report Ends with Murder and Attempted Murder Charges.....	26
Success Story 2: NDDB - Back to the Future.....	28
Success Story 3: Police Join Forces to Identify Child Abductor.....	30
Success Story 4: 60 Seconds to Commit the Crime - 6 Years to Pay for it.....	32
Appendix A: List of Criminal Code Primary Offences.....	34
Appendix B: List of Criminal Code Secondary Offences.....	35

www.nddb-bndg.org

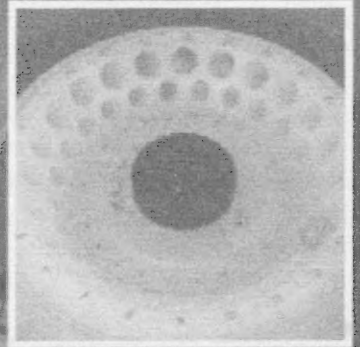
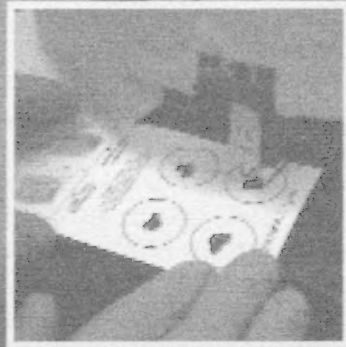
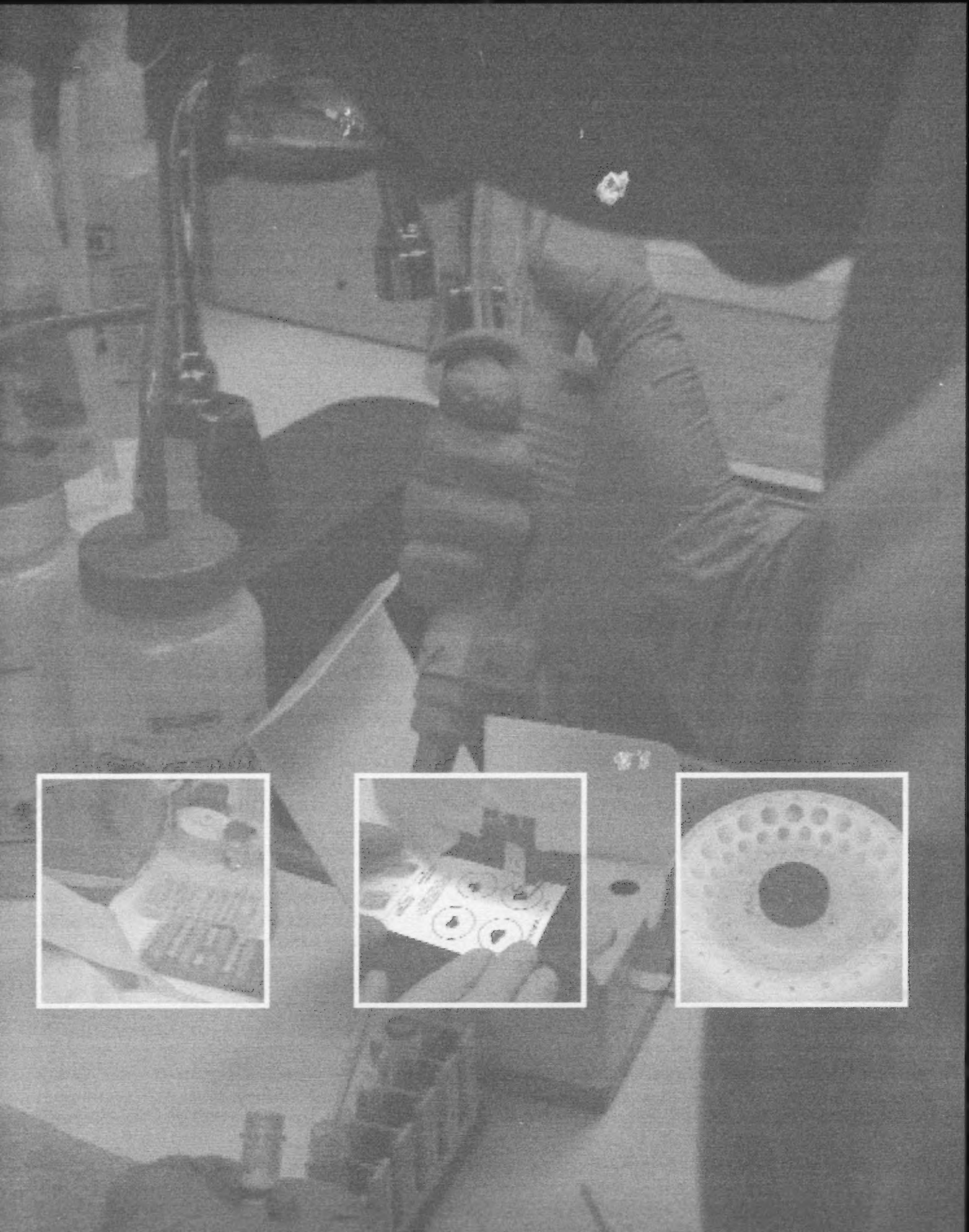
Any queries regarding the content of this report, or requests for additional copies, should be addressed to:

National DNA Data Bank of Canada
Forensic Laboratory Services, Royal Canadian Mounted Police
PO. Box 8885, 1200 Vanier Parkway, Ottawa, Ontario K1G 3M8

The Helix and Maple Leaf Design is a recognized symbol for quality and excellence in forensic DNA analysis developed as part of the innovation of the National DNA Data Bank (NDDB). The NDDB is a branch of the Forensic Laboratory Services which is a component of the National Police Services, Royal Canadian Mounted Police. The Helix and Maple Leaf Design is an Official Trademark under the Trademark Act.

© Her Majesty the Queen in Right of Canada (2006) as represented by the Minister of Public Safety and Emergency Preparedness Canada

Cat. no.: PS61-4/2006
ISBN: 0-662-49452-0
NCS-SNC 002



Message from the Minister, Public Safety and Emergency Preparedness Canada



This Government is dedicated to ensuring that law enforcement agencies have the necessary tools to keep communities safe and our country secure. The National DNA Data Bank (NDDB) provides the law

enforcement community and the courts with a trustworthy investigative tool and its scientists have developed innovative methods and processes which corroborate the scientific validity of DNA analysis.

The NDDB is, however, much more than a database of DNA profiles. Its members work with police across Canada to train them in collecting samples from convicted offenders, and with the courts to raise their awareness of how to harness the power of the *DNA Identification Act* legislation. The NDDB's efforts are yielding results on every front, making DNA the critical factor in solving many crimes.

The influence of DNA extends beyond solving cases today to its ability to reach into the past to solve those criminal cases where traditional methods have not been met with success. It is also an investment in tomorrow, as DNA profiles entered today may reach forward to link future crimes and convicted offenders. The work of the NDDB also extends beyond our borders where, through agreements with Interpol, we exchange

DNA profile information with international partners to solve crimes across jurisdictions.

Success stories continue to flow into the NDDB, demonstrating the value of government's investment into this worthwhile program. The NDDB assists police in identifying and apprehending suspects and repeat offenders, and reducing the length and cost of investigations.

More than identifying suspects and solving crime, the NDDB also eliminates the innocent as suspects where there is no match between the Crime Scene Index and the Convicted Offender Index. As this report will demonstrate, the contribution of DNA is greater than the single critical piece of evidence in a case. It is often the time-saver, the force-multiplier, and the corroborative and confirming element that makes investigations more efficient.

This confidence in the NDDB is evidenced by the endorsement of Bill C-13, which will increase the number of offences that qualify for crime scene and convicted offender submission to the NDDB. The new provisions will expand the impact of the NDDB and contribute to enhanced public safety.

Canadians can be proud of the NDDB and its continuous dedication to ensuring that it remains an effective tool in solving thousands of crimes.

The Honourable Stockwell Day

Message from the Commissioner, Royal Canadian Mounted Police

In six years of operation, the National DNA Data Bank (NDDB) has surpassed one milestone after another. In each annual report I have commented on the unqualified success of the NDDB and I offer the same assessment again this year.

Looking forward, 2006/2007 will see the Parliamentary Review of the *DNA Identification Act*. I am confident that it will echo what the law enforcement and criminal justice communities have said; that the NDDB is an essential link among crime scene investigators, forensic science laboratories, and the courts.

The RCMP is proud to be the steward of the NDDB on behalf of the Canadian law enforcement and criminal justice communities. We cannot, however, take sole credit for the NDDB's success. It is truly a best practice in integration and cooperation between stakeholders, while respecting broader concerns surrounding privacy of information. The NDDB is also a valued partner, delivering timely and cost effective results using methodologies held in high regard by the scientific community. These elements are the hallmark of public money invested wisely in support of public safety.

The NDDB cannot rest on its achievements, and has already assessed the implications of the passage of Bill C-13 (An Act to amend the

DNA Identification Act,
Criminal Code and *National Defence Act*).

It is poised to respond to the increased opportunities to associate crime scene and convicted offender DNA profiles that the legislation can provide, while working with law enforcement, government, legal partners and stakeholders to identify the impact on operations that the legislation may create.

The NDDB remains mindful of the trust Parliament and Canadians place in it regarding privacy and protection of information. It is equally committed to fulfilling its mandate to support public safety and security efforts to keep Canada one of the safest countries in which to live.

Commissioner G. Zaccardelli



Executive Summary: Looking Back, Looking Forward

The numbers are telling; 25 crime scene to crime scene and crime scene to convicted offender hits in the first fiscal year, to 2,323 in 2005/2006 alone, bringing the total hits to 5,689 on March 31, 2006; an exponential increase in the National DNA Data Bank's (NDDB) assistance in solving crime.

As impressive as the numbers are, they are only part of the story. The success of the NDDB is a direct result of a commitment to meeting legislative requirements, to advancing scientific research, to successful stewardship of resources, and to ensuring security of data and privacy of information. It is also a true partnership between government, law enforcement, and the criminal justice community in using DNA-based technology as one of the most valid and reliable investigative tools known today.

Each aspect of the partnership is essential for the NDDB to meet its mandate to:

- link crimes together where there are no suspects,
- help to identify suspects,
- eliminate suspects where there is no match between crime scene DNA and a DNA profile in the NDDB, and
- determine whether a serial offender is involved.

Established by the *DNA Identification Act* passed in 1998 and proclaimed in June 2000, the NDDB became a reality in only 18 months, on time, and under budget. Centrally located at the RCMP Headquarters in Ottawa, the NDDB reaches across Canada to provide all law enforcement with the benefits of a national collection system. This national collection,

storage and retrieval system collects and compares DNA profiles gathered from across the country.

Under the leadership of Officer in Charge, Dr. Ron Fourney, the NDDB adopted leading-edge scientific methodologies combined with the most advanced robotic processing technologies. Working with a private sector technology partner, the NDDB leveraged its considerable scientific expertise to develop the Sample Tracking and Control System™ (STaCS™) now sold worldwide and delivering royalties to the RCMP. The NDDB also patented a sample collection kit that provides police with an easy and reliable method to collect biological samples from convicted offenders.

The use of this innovative technology allowed the NDDB to develop the capacity to process up to 30,000 samples per year. The NDDB was ready to handle this number of samples when it began operations, however submissions to the Convicted Offender Index and Crime Scene Index were initially slow to come in. Although the numbers have continued to increase, the number of convicted offender samples ordered is estimated to account for only half of the convictions for primary offences. The NDDB and the Department of Justice have worked diligently to increase awareness by the judiciary and Crown Prosecutors of the potential to increase convicted offender sample collection. By the end of 2005/2006, the total number of samples in the Convicted Offender Index reached 92,980 (see table 3).

The proportion of Crime Scene Index profiles has continued to increase with submissions from the three forensic laboratories in Canada; the RCMP Forensic Laboratory Services, the Centre of Forensic Sciences in Toronto, and the Laboratoire de sciences judiciaires

et de médecine légale in Montréal. Entries in the Crime Scene Index stood at 27,925 as of March 31, 2006.

The bottom line is that success for the NDDB, and by extension the Canadian law enforcement and criminal justice communities, rests on the simple equation that the more samples entered into the Crime Scene Index and Convicted Offender Index, the greater the number of convicted offender and crime scene hits. The NDDB established a national training unit to train police officers on sample collection and new legislative requirements. Last year alone the training unit reached 607 individuals, from Charlottetown to Hay River as well as military police from Camp Borden.

The Regulations created in 2000 for the *DNA Identification Act* mandated an external Advisory Committee to provide the NDDB with governance and subject matter expertise in policing, privacy, molecular biological sciences, genetics, medical ethics and the law. Appointed as an independent body by the (then) Solicitor General, the Committee reports to the Commissioner of the RCMP, and provides expert advice to the NDDB. The past year has seen many changes and challenges in the DNA scheme in Canada, and the ongoing advice and expertise of the Advisory Committee has been especially valuable to the Commissioner and government policy makers.

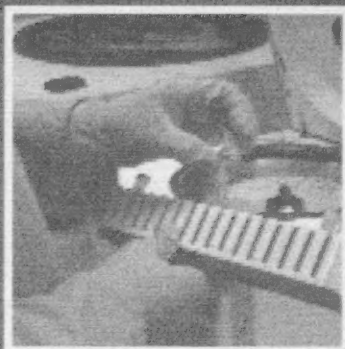
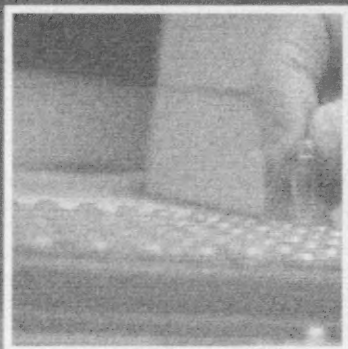
The outlook for the NDDB is very positive. This year it is scheduled to undergo the Parliamentary Review required by the *DNA Identification Act* while contending with the considerable impact of the anticipated proclamation of Bill C-13 (An Act to amend the *DNA Identification Act*, *Criminal Code* and *National Defence Act*). The Review will allow Parliament to examine the NDDB to confirm its relevance and performance. The proclamation of Bill C-13 opens the door to increased "hits" resulting from the expansion of the number of primary and secondary offences. The NDDB is working with its federal partners to assess the impacts on capacity and costs to meet the increased convicted offender samples to be collected and analyzed.

With the success of the NDDB, its management remains committed to ensuring that its infrastructure and expertise maintains the capacity to provide timely and quality services, especially in light of the anticipated increase in sample submission that the changes in legislation will generate.

The power of DNA to help solve crime is undeniable, and continued support of the NDDB will help to ensure that this power is harnessed and used effectively to support the safety of Canadians.



The power of DNA to help solve crime is undeniable, and continued support of the NDDB will help to ensure that this power is harnessed and used effectively to support the safety of Canadians.



The success of the NDDB is a direct result of a commitment to meeting legislative requirements, to advancing scientific research, to successful stewardship of resources, and to ensuring security of data and privacy of information.

Harnessing the Power of DNA Analysis

DNA analysis was first used by the RCMP in 1989 in an investigation in which a suspect denied any involvement in a sexual assault, but the victim identified him as the attacker. DNA analysis later confirmed the victim's story. After the DNA test results were presented in court, the suspect changed his plea to guilty.

At this early stage, there was no central coordination at the national level that could help police take full advantage of the unfolding advances in DNA technology. In 1995, the Canadian *Criminal Code* was amended to add DNA warrant provisions. Under these provisions, a provincial court judge may authorize the collection of a DNA sample from a suspect for the purpose of forensic DNA analysis in the course of the police investigation of a designated *Criminal Code* offence.

In order for this new tool to be used to its full potential, there was a need to coordinate DNA profiling data from investigations across the country. With support from all levels of government, the general public and police agencies throughout Canada, decisive steps were taken to create the National DNA Data Bank.

In 1996, the Department of the Solicitor General (as it was then known) and the Department of Justice undertook Canada-wide consultations regarding the establishment of a National DNA Data Bank. The following groups participated in these consultations:

- Provinces and territories
- Police associations
- Privacy officials
- Bar associations
- Victim advocates
- Women's groups
- Correctional officials
- Medical and scientific organizations

Confirming the Government of Canada's commitment to combat crime and especially violent crime, Bill C-3, the *DNA Identification Act* (S.C. 1998 c.37) received Royal Assent on December 10, 1998 and was proclaimed in force on June 30, 2000.

That same year, Parliament enacted Bill S-10, an Act to amend the *National Defence Act*, the *DNA Identification Act* and the *Criminal Code* (S.C. 2000, c. 10). The RCMP then built the National DNA Data Bank after Bill C-3 received Royal Assent. The project was completed on time and under budget.

History of DNA Legislation in Canada

1989	First RCMP DNA case.
1995 July	Bill C-104 receives Royal Assent. The Bill amends the <i>Criminal Code</i> and the <i>Young Offenders Act</i> to enable a judge to issue a warrant allowing police to obtain DNA evidence from suspects in a criminal investigation. This is Phase I of the Government of Canada's DNA Strategy, which provided the legislative framework for the use of DNA evidence in criminal proceedings.
1995 August	The Canadian Association of Chiefs of Police (CACP) joins hundreds of other organizations across the country in urging the government to create a National DNA Data Bank.
1996 January	Phase II of the Government of Canada's DNA Strategy begins with nation-wide consultations for the establishment of a National DNA Data Bank.
1997 April	Bill C-104 is tabled in the House of Commons. The Bill was to enable creation of a National DNA Data Bank. The Bill is referred to the Standing Committee on Justice and Human Rights before Second Reading, but dies on the Order Paper when an election is called in June.
1997 September	Bill C-104 is re-introduced in the House of Commons under the number C-3.
1998 December	Bill C-3 receives Royal Assent. Work begins with an aggressive 18 month schedule to establish the National DNA Data Bank.
1999 November	Bill S-10 is tabled in the House of Commons. Based on Senate recommendations, the Bill contains amendments to Bill C-3 including: the taking of fingerprints for identification purposes, the inclusion of offenders convicted of designated offences in the military justice system, and a full legislative review after five years to be conducted by the Senate and the House of Commons.
2000 June	June 30, Royal Assent to Bill S-10 and proclamation of Bills C-3 and S-10. DNA sample collections are expected to commence immediately following proclamation.
2005 May	Royal Assent to Bill C-13. Amendments expand the retroactive scheme, clarify National DNA Data Bank profile sharing procedures with forensic laboratories, and establish procedures to confirm the validity of National DNA Data Bank orders. Other provisions of the Bill will come into force on proclamation.

The National DNA Data Bank (NDDB)



The RCMP, through its National Police Services, is the steward of the NDDB on behalf of the Government of Canada and operates the NDDB for the benefit of the entire law

enforcement community.

In 2005-2006 the NDDB and its legal partners added 17,842 entries to the Convicted Offender Index.

The NDDB serves three forensic laboratory partners in Canada:

- the RCMP Forensic Laboratory Services (with sites in Halifax, Ottawa, Winnipeg, Regina, Edmonton and Vancouver),
- the Centre of Forensic Sciences in Toronto, and
- Laboratoire de sciences judiciaires et de médecine légale in Montréal.

Biological samples collected from convicted offenders are processed by the NDDB and the resulting DNA profiles are entered into the Convicted Offender Index. The NDDB is the custodian of the Crime Scene Index, a separate electronic database of DNA profiles from crime scene evidence analyzed and uploaded into the NDDB by the three Canadian forensic laboratories. The NDDB received 7,807 new submissions to the Crime Scene Index in 2005/2006.

Possible matches are identified in one of two ways:

- New DNA profiles entered in the Crime Scene Index are compared against DNA profiles from other crime scenes. These matches associate different crimes to each other, which helps investigators to look for other commonalities that may assist with solving the crime.
- Comparison of new crime scene or convicted offender entries to associate an offender with a particular crime.

In 2005/2006, the NDDB identified 331 crime scene to crime scene matches, and 1,992 crime scene to convicted offender matches, bringing the total hits to 2,323.

Playing a Vital Role

The NDDB assists law enforcement agencies in solving crime by;

- linking crimes where there are no suspects,
- helping to identify suspects,
- eliminating suspects where there is no match between crime scene DNA and profiles in the NDDB, and
- determining if there is a serial offender.

The NDDB improves the administration of justice by ensuring that those who commit serious crimes are identified, and by focusing investigations to eliminate suspects.

Cutting Edge Technology

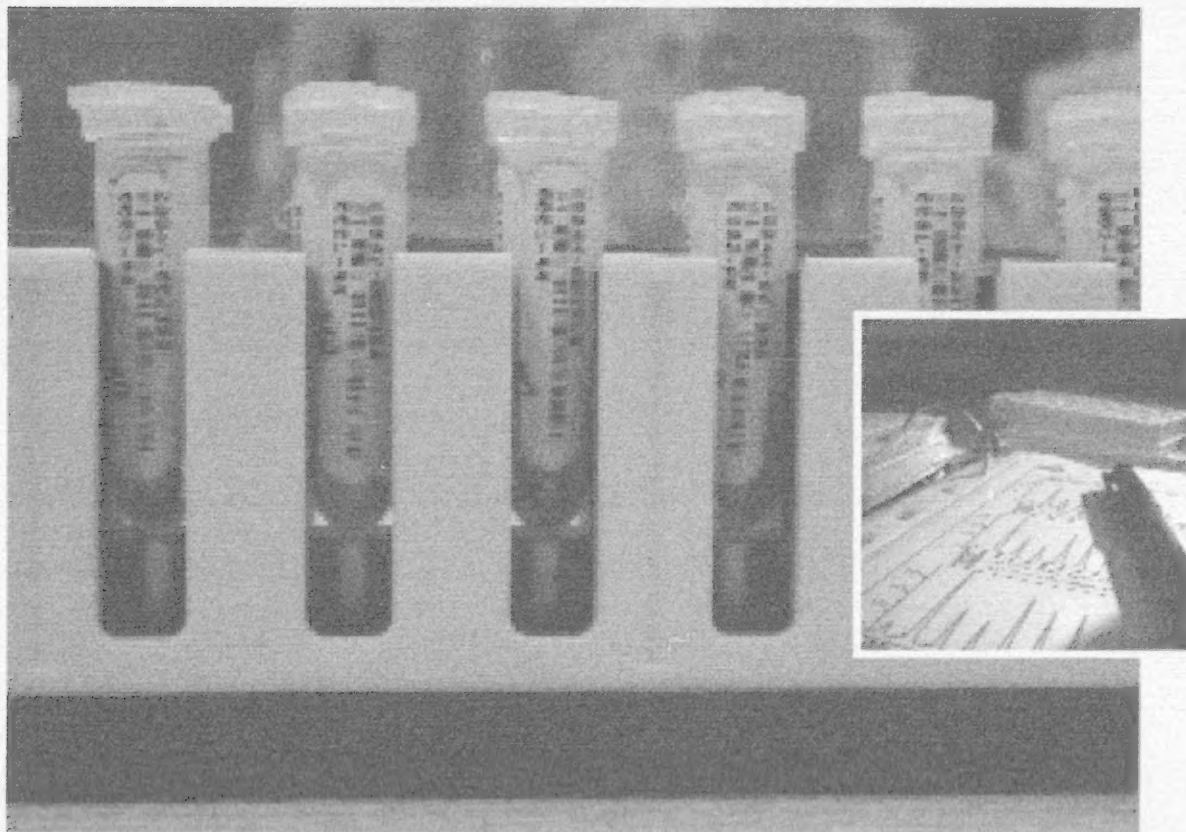
Robotic technology plays an important role in the timely processing and analysis of convicted offender samples. This technology, combined with a world-class Sample Tracking and Control System™ (STaCS™), allows NDDB analysts to rapidly process samples at reasonable cost while ensuring overall data security and providing quality control throughout the DNA analytical process.

Preserving Privacy

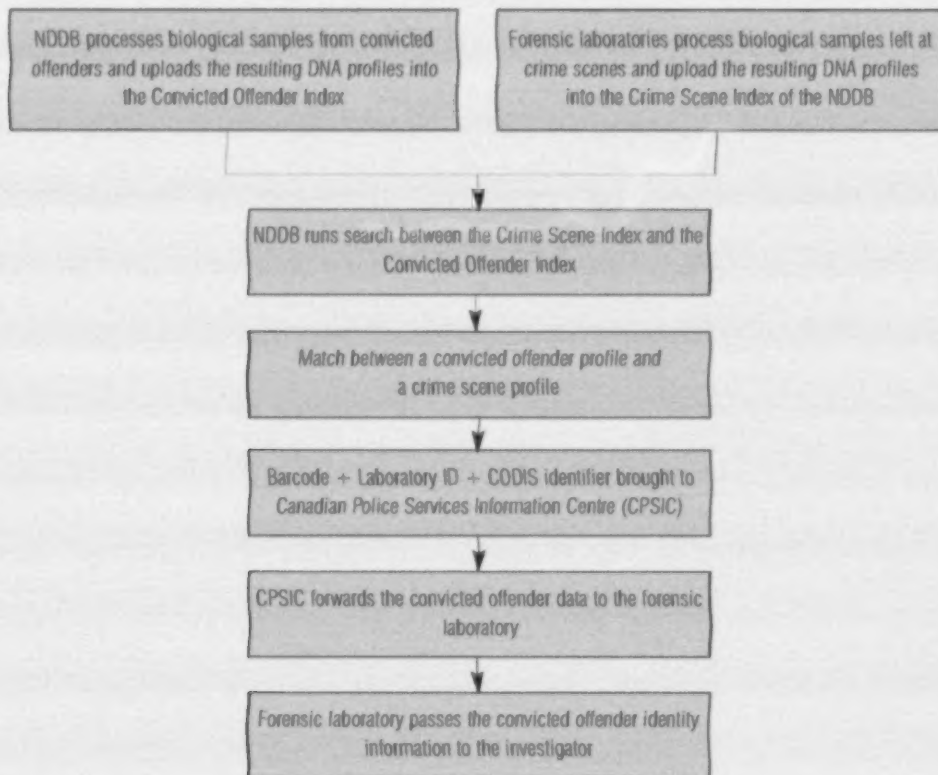
The NDDB strictly adheres to the privacy principles contained within the *DNA Identification Act* while balancing the need for police officers to identify suspects. Stringent procedures governing the handling of biological samples and resulting DNA

profiles ensure that the privacy rights of individuals are protected.

Information collected by the NDDB is used solely for law enforcement purposes; in fact the DNA profiles are considered anonymous pieces of DNA and, apart from gender, do not specify any medical or physical information about the donor. The 13 core tests or "loci" chosen for forensic analysis in Canada are the same regions of genetic variation used throughout the United States and in many other countries conducting forensic DNA analysis.

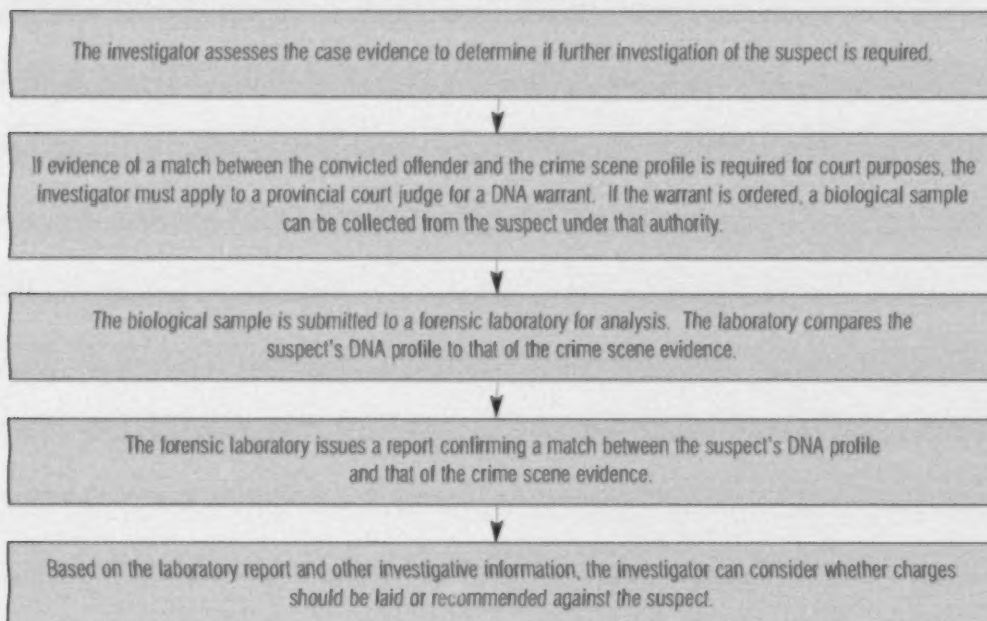


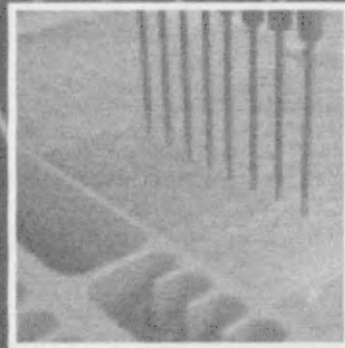
Process for Reporting Matches



Process for Confirming a Match

Once the investigator has received the convicted offender's identity from the forensic laboratory, the following procedure is followed to confirm the match.





The Working Science

The National DNA Data Bank (NDDB) is comprised of two indices; the **Convicted Offender Index** and the **Crime Scene Index**.

The **Convicted Offender Index**:

An electronic DNA profile database developed from biological samples collected from:

1. Offenders convicted of designated primary and secondary offences (see Appendices A and B) identified in section 487.04 of Canada's *Criminal Code*, and
2. Offenders who meet the retroactivity criteria in section 487.055 of the *Criminal Code*. In general terms, this applies to those convicted of certain serious offences who were already serving a sentence of at least two years, or who had been declared a dangerous offender before June 30, 2000 when the *DNA Identification Act* was proclaimed. (See Key Statistics explanatory notes on page 20 for a complete description of retroactive provisions)

Biological samples from convicted offenders are collected by police who have been specifically trained to do so. Biological samples can be collected in one of three ways:

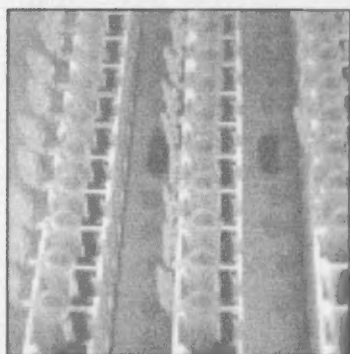
1. **Blood:** The sample is obtained by using a sterile lancet to prick the fingertip and then collecting bloodstains on a specially prepared sample card.
2. **Buccal:** The inside of the mouth is rubbed with a foam applicator to obtain skin cells that are then transferred to the sample card.

3. **Hair:** 6-8 hairs are pulled out with the root sheath attached which are then placed on a special sample card.

The convicted offender biological samples are collected and submitted to the NDDB to be processed into DNA profiles. This profile information is then entered into the **Combined DNA Index System (CODIS)**, a software package that stores and compares the profiles. CODIS was developed by the Federal Bureau of Investigation and the US Department of Justice, and provided to the NDDB at no cost. The software is a universally accepted standard for forensic laboratories, which allows the NDDB to participate in the sharing of information consistent with signed international agreements.

The **Crime Scene Index**:

A separate electronic database composed of DNA profiles obtained from crime scene investigations of the same designated offences as the **Convicted Offender Index**. The biological samples are collected at the crime scene by investigators and submitted to one of the three forensic laboratory systems (RCMP Forensic Laboratory Services, Laboratoire de sciences judiciaires et de médecine légale, and the Centre of Forensic Sciences). Information from the resulting DNA profiles are uploaded into the **Crime Scene Index** by the forensic laboratories. The NDDB retains this electronic information as well as basic details such as the date, location of the submitting laboratory and a unique number identifier that allows information to be compared by the submitting laboratory in the event of a future match.



Privacy of Information

It is important to understand that both crime scene and convicted offender samples are identified simply by a bar code number. In fact, the donor identity of a convicted offender is separated from the genetic information when the sample arrives at the NDDB. The bar code is the only link between personal information, the biological sample and DNA profile. The personal information is protected information that is not accessible by NDDB staff, and is kept in a separate registry by the RCMP's Canadian Criminal Record Information Services.

Canadian law makes it clear that the NDDB profiles can only be used for law enforcement purposes. The NDDB does not share the DNA profiles with anyone other than law enforcement agencies. The DNA profiles are the result of 13 special DNA tests that together produce a DNA profile which is unique to each individual. These 13 regions of interest are considered anonymous, and other than gender, do not provide specific medical or physical information about the donor. The regions chosen by the NDDB are the same regions of genetic variation used throughout the United States and in many other countries conducting forensic DNA analysis.

National DNA Data Bank Advisory Committee

The NDDB Advisory Committee was created pursuant to the *DNA Data Bank Advisory Committee Regulations*, and advises the Commissioner of the RCMP on matters related to the operations of the NDDB. Members are appointed by the Minister, Public Safety and Emergency Preparedness Canada.

The Advisory Committee began meeting in January 2000 to support the establishment of the NDDB and has continued over the past six years to provide relevant and strategic advice to the Commissioner of the RCMP. The Committee is comprised of experts from policing, privacy, molecular biological sciences, genetics, medical ethics and the law to provide the NDDB with the benefit of its collective knowledge and experience. It is a testament to the commitment of the members that all but one of the original members have remained on the Committee for the entire six years since the Committee was formed.

According to Richard Bergman, Chair of the NDDB Advisory Committee, "there are few technical projects that can boast of achieving its objectives on-time and within budget. The universal acceptance of the NDDB by all stakeholders is a demonstration of how well it is meeting its legislative requirements. The Advisory Committee is proud to have played a role in the NDDB's success."

Since the NDDB began operation, the Advisory Committee has reviewed key issues such as governance, legislation, risk awareness, training for police and judicial communities, international agreements, and intellectual property development and sale. It has also been invited to offer opinion to the Government of Canada on establishment of a

Missing Persons Index and the Parliamentary Review of the NDDB.

In addition to the advice provided to the NDDB through the Commissioner, Advisory Committee members can act as advocates and facilitators within their sphere of influence. Their promotion of issues affecting the NDDB have aided key stakeholders in gaining a better understanding of the importance of the NDDB and its enabling legislation.

As chairperson of the Committee, Mr. Bergman has identified five key factors in the NDDB's success:

- leading edge scientific technology developed and used by the NDDB,
- high level of scientific expertise of personnel,
- ongoing training of thousands of police officers to maintain the high quality of sample collections,
- strict adherence to legislation and privacy considerations, and
- the support of police, government, Crown Prosecutors, defence counsel and judges.

The NDDB Advisory Committee remains steadfast in its support of the National DNA Data Bank.

National DNA Data Bank Advisory Committee Members

Dr. Frederick R. Bieber, Canadian-born Associate Professor of Pathology in the Faculty of Medicine at Harvard University. Dr. Bieber is a medical geneticist and a specialist in bio-medical ethics.

Dr. George R. Carmody, Vice Chairperson Associate Professor of Biology at Carleton University. Dr. Carmody is a regular expert witness in DNA-related court cases in Canada.

The Honourable Peter Cory, C.C., C.D., Q.C., retired Justice of the Supreme Court of Canada. The Honourable Peter Cory is currently working with the Federal Department of Justice and Osler ADR Centre.

Gisèle Côté-Harper, O.C., Q.C., a graduate of Harvard Law School and currently a Barrister and a Professor at the Faculty of Law, Université Laval, specializing in Criminal Law and Human Rights.

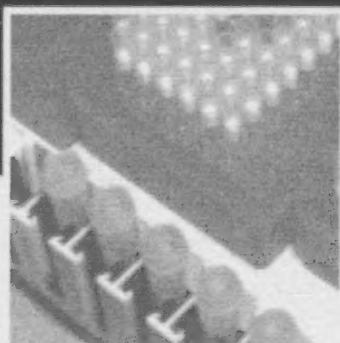
Dr. William S. Davidson, Professor of Molecular Biology and Biochemistry, Simon Fraser University (Burnaby, B.C.). Dr. Davidson has published widely in the areas of molecular evolution, population genetics, genomics and human genetics.

Raymond D'Aoust, Assistant Commissioner, Office of the Privacy Commissioner of Canada.

Dr. Ron Fournay, Director, Research and Development, Forensic Science and Identification Services, RCMP

"Think about it - the NDDB has gone from 25 hits in the whole first year of operation, to making, on average, 25 hits every 4 days in 2005/2006. Then think about the number of crimes the NDDB can help solve when the number of offences eligible for inclusion increases with the full proclamation of Bill C-13. It's exciting to realize that the expertise and dedication of its members working with law enforcement and the judiciary across Canada and around the world makes such a difference to Canadians."

Richard Bergman,
Chair,
NDDB Advisory Committee



Key Statistics

(March 31, 2006)

Table 1: Cases Assisted by the NDDB

Murder	310
Sexual Assault	711
Attempted murder	111
Robbery (armed)	622
Break and entering with intent, committing offence, or breaking out	2,823
Assault	316
Other	85
Total	4,978

Table 2: Match Inventory Report

Offender Hits - Crime Scene Index to Convicted Offender Index	4,978
Forensic Hits - Crime Scene Index to Crime Scene Index	711
Offender Duplicate (Two samples taken from the same person)	2,803
Identical DNA profiles but from different individuals (i.e. identical twins)	48

Explanatory Notes:

An Offender "hit": A DNA profile developed from crime scene evidence and entered in the NDDB matches with a DNA profile in the Convicted Offender Index.

A Forensic "hit": A DNA profile developed from crime scene evidence and entered in the Crime Scene Index of the NDDB matches another crime scene DNA profile in the Crime Scene Index.

An Offender duplicate: Cases where two biological samples from the same person were submitted to the NDDB.

Identical DNA profiles: Profiles of identical twins.

Table 3: DNA Profiles entered into the NDDB

Entered into the Convicted Offender Index	92,980
Entered into the Crime Scene Index	27,925
Total	120,905

Note: the NDDB receives 300-400 convicted offender samples per week.

Explanatory Notes:

Convicted Offender Profile: A DNA profile from an offender convicted of a designated offence (see Appendix A for a list of primary designated offences and Appendix B for a list of secondary designated offences).

Crime Scene Profile: A DNA profile developed from biological evidence found at a crime scene.

Table 4: Crime Scene Index Profiles Received

Laboratoire de sciences judiciaires et de médecine légale (Montréal)	8,571
Centre of Forensic Sciences (Toronto)	11,436
RCMP Forensic Laboratory Services (Ottawa, Edmonton, Vancouver, Regina, Winnipeg, Halifax)	7,918
Total	27,925

Table 5: Breakdown of Convicted Offender Samples Received According to Category and Offence Type

Retroactive	1,995	Primary	51,694
Retrospective	45,166	Secondary	45,565
Prospective	50,910	Other	812
Total	98,071		

Explanatory Notes:

The Convicted Offender Index is a post-conviction database composed of three categories of samples:

Retroactive: A biological sample taken from an offender who was found guilty of a designated *Criminal Code* offence before June 30, 2000 and who;

- (a) had been declared a dangerous offender under Part XXIV;
- (b) had been declared a dangerous offender or a dangerous sexual offender under Part XXI of the *Criminal Code*, being chapter C-34 of the *Revised Statutes of Canada*, 1970, as it read from time to time before January 1, 1988;
- (c) had been convicted of murder;
- (d) had been convicted of a sexual offence within the meaning of subsection (3) and, on the date of the application, is serving a sentence of imprisonment of at least two years for that offence; or
- (e) had been convicted of manslaughter and, on the date of the application, is serving a sentence of imprisonment of at least two years for that offence.

As of March 31, 2006, approximately 6,112 offenders qualified for inclusion in the retroactive category as defined by C-3 and C-13. From this list of qualified offenders, 2,357 files were concluded with the

remainder being prepared by the Attorneys General for court applications.

Retrospective: A biological sample collected from an offender who committed a designated offence before June 30, 2000 and was convicted after that date.

Prospective: A biological sample collected from an offender who committed, and was convicted of, a designated offence after June 30, 2000.

Primary Offences: see Appendix A

Secondary Offences: see Appendix B

Non-designated Offences: A biological sample collected from an offender who; 1) was convicted of an offence other than a primary or secondary offence; or 2) does not belong to one of the categories of offenders set out in the retroactive scheme.

Samples Received versus Profiles Entered: As of March 31, 2006, the NDDB had received 98,071 biological samples, of which 92,980 DNA profiles were entered into the Convicted Offender Index of CODIS. The difference of 5.2% can be attributed to rejected samples, duplicate samples and biological samples in the process of being treated.

Table 6: Convicted Offender Samples Received by Province

Alberta	9,993	Nunavut	464
British Columbia	9,981	Ontario	44,096
Manitoba	5,618	Prince Edward Island	226
New-Brunswick	1,378	Quebec	16,993
Newfoundland & Labrador	1,473	Saskatchewan	4,472
Nova-Scotia	2,508	Yukon	195
North West Territories	674		

Note: The above information represents the convicted offender samples received and is not reflective of the number of convictions eligible for inclusion into the Convicted Offender Index.

Table 7: Type of Samples Received From Convicted Offenders

Blood	96,494	(98.4 %)
Buccal	1,457	(1.5 %)
Hair	120	(0.1 %)
Total	98,071	

Table 8: Breakdown of Convicted Offender Samples Received

Young offenders	13,187
Adult offenders	84,856
Military offenders	28

Explanatory Note:

Sample Rejections: The NDDDB has rejected only 1.4% of the samples it has received to date. The reasons for rejection include; offender convicted of a non-designated offence, inadequate biological samples, use of inappropriate collection kit, no court order made, and others. Over 50% of the rejected samples are the result of submissions from offenders convicted of non-designated offences and are therefore not eligible for inclusion in the Convicted Offender Index.

These numbers for sample rejection do not include biological samples submitted without fingerprints. Typically, if an affidavit from the collection officer is provided at a later date, continuity is established and the samples can be accepted. Since June 30, 2000, the NDDDB has received 663 biological samples that did not contain the fingerprint identification on the sample collection card or the fingerprint identification form.

Additional samples: In some instances, samples had to be taken a second time, pursuant to subsection 487.091(1) of the *Criminal Code*, which provides for an application for resampling where a DNA profile can not be derived from the original sample. Since June 30, 2000, the NDDDB has received 260 samples that were taken under this provision.

Table 9: Convicted Offender Index Breakdown of Offences

Homicide	2,233
Sexual Assault	17,943
Break and Enter/Robbery	29,313
Assault	60,231
Other	5,228

Note: more than one offence may be associated with a sample received.

Explanatory Notes:

Homicide includes manslaughter.

Sexual Assault includes rape, sexual intercourse with a female under 14 and between 14 and 16, sexual intercourse with the feeble-minded, sexual interference, invitation to sexual touching, sexual exploitation, incest, bestiality in the presence of or by a child, child pornography, indecent acts, offence in relation to juvenile prostitution, sexual assault with a weapon, and aggravated sexual assault.

Break and Enter/Robbery is limited to the two offences.

Table 10: Breakdown of Biological Samples Destroyed and of DNA Profiles Removed from the Convicted Offender Index

	Adult	Young offender
Absolute discharge	18	5
Conditional discharge	319	52
Conviction quashed on appeal	49	2
DNA order/authorization quashed	10	0
No suitable DNA profile obtained	10	3
Retention period expired	0	1

Assault includes assault with a weapon or causing bodily harm, aggravated assault, and assaulting a peace officer.

The Others category include using explosives, causing death by criminal negligence, causing bodily harm by criminal negligence, causing bodily harm with intent, dangerous operation causing death, failure to stop at the scene of an accident, impaired driving causing death, unlawfully causing bodily harm, kidnapping, hostage taking, mischief causing danger to life, arson-disregard to human life, setting fire to other substance, arson - own property.

Financial Statement: April 1, 2005-March 31, 2006

Expenditure Type	Expenditure (\$ thousands)
Personnel	1,429
Transport and communications	68
Information	13
Development and infrastructure support	26
Rentals	2
Repair and maintenance	67
Utilities, materials and supplies	534
Capital and minor equipment purchases	98
Miscellaneous	14
Total	2,251

The Financial Statement does not include the indirect costs to operate the NDDB such as RCMP infrastructure support and maintenance.



Training

Early in its formative planning, the NDDB recognized the importance of training law enforcement in the collection of biological samples from convicted offenders. Ongoing training will always be required due to personnel changes, retirements, etc. Training is also required when new sample collection methods are introduced, or legislative requirements change.

A small team of professionals provides training across Canada, supported by DNA Coordinators in each region. In 2005-2006, they held training sessions in seven provinces and three territories, reaching 607 individuals. Working in collaboration with experienced staff across Canada, training and information sessions were provided to 476 police officers, 45 military personnel, and 86 others, including Attorneys General, judges, Crown Prosecutors and public servants. The team makes a special effort to reach new police recruits during their initial training and to community colleges offering police foundation programs.

Training extends beyond the technical requirements for proper sample collection to situations relative to collection such as fingerprinting, time restrictions and legal issues associated with sample collection. This information is appreciated by police and the legal community alike.

In anticipation of enhanced training relative to full proclamation of Bill C-13, the training section has developed a strategy to reach stakeholders with new information.

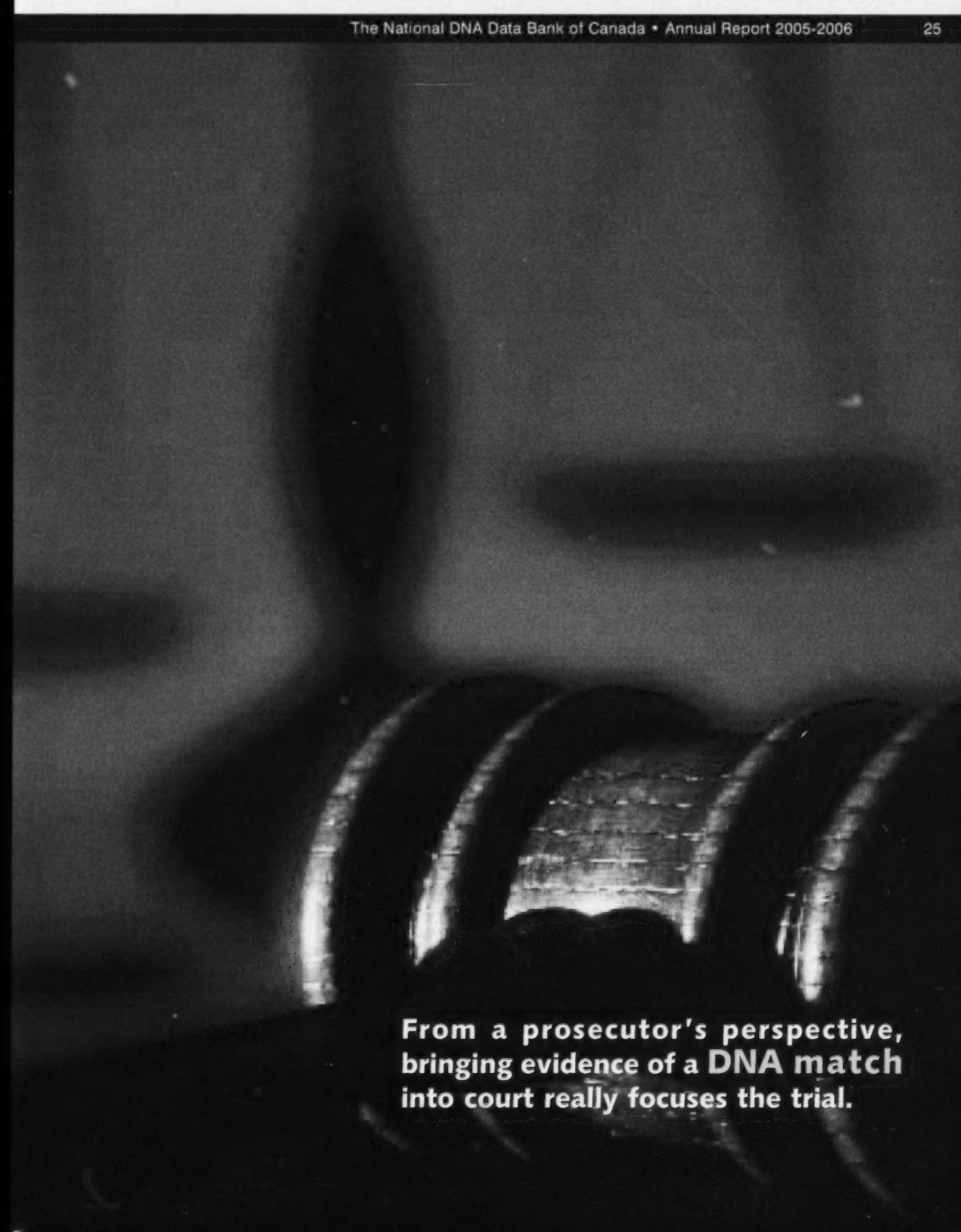
A Prosecutor's Perspective

Larry Stein, Queen's Council, has been sold on the value of DNA in criminal prosecution since 1990, when he became one of the first prosecutors in Canada to be trained by the RCMP Forensic Laboratory Services in the forensic applicability of DNA to criminal cases. At that time, the use of DNA profiles to associate suspects to crime scenes was a fledgling tool for the law enforcement and criminal justice systems. Now as Assistant Chief Crown Prosecutor in Calgary for the Alberta Department of Justice, Mr. Stein is a member of a prosecution team that is responsible for the coordination of legal aspects for the NDDB and operational DNA case files.

When asked about the continuing value of the NDDB in 2006, Mr. Stein explains, "from a prosecutor's perspective, bringing evidence of a DNA match into court really focuses the trial. We now have an investigative tool so specific that the validity of a match is almost universally accepted. Further, appeals have been dismissed when DNA evidence is a critical factor in conviction, and many constitutional challenges have been dismissed."

The role of the NDDB is particularly critical, according to Mr. Stein. The court is concerned with dispensing justice. From this perspective, the NDDB not only helps to place the suspect at the scene of the crime, but also eliminates those whose DNA does not match with crime scene evidence. The relationship between the justice system and the NDDB is truly a symbiotic one; the NDDB provides information that can assist in determining the innocence or guilt of a suspect, while convicted offender DNA contributes to the population of the Convicted Offender Index to support the linkage of crime scene evidence to a convicted offender.

Mr. Stein points out that the justice system participants are becoming more aware of the role they play in supporting the NDDB. The *DNA Identification Act* provision for the collection of biological samples from convicted offenders is the avenue supporting the power of the NDDB. Through ordering sample collections from convicted offenders, judges and Crown Prosecutors make a critical contribution to the NDDB's ability to further support public safety in Canada.



**From a prosecutor's perspective,
bringing evidence of a DNA match
into court really focuses the trial.**

A Missing Person Report Ends with Murder and Attempted Murder Charges

On April 23, 2002, the family of 29 year-old Shawn * reported him missing in Dawson Creek. Police determined that he was last seen nine days earlier at a local pub with two unknown men. The two men were tentatively identified and associated to a nearby residence. When police arrived at the residence, however, it was abandoned.

Finding blood stains in several places throughout the home, police suspected foul play and sent the evidence for DNA analysis. They also obtained biological reference samples from the missing man's parents to help with identification. The RCMP Forensic Laboratory Services completed the analysis and confirmed that some blood at the residence matched to Shawn, and that there was also blood from another unknown person.

The unknown DNA profile obtained from the crime scene was uploaded into the National DNA Data Bank's (NDDB) Crime Scene Index. Unsure of Shawn's fate, police continued to follow all clues to find him and his assumed assailants. In their pursuit of the two men last seen with the missing man, police were led to an abandoned vehicle in Mayerthorpe, Alberta. Several blood-soaked household items were found in the vehicle, along with Shawn's knapsack. These items were sent to the RCMP

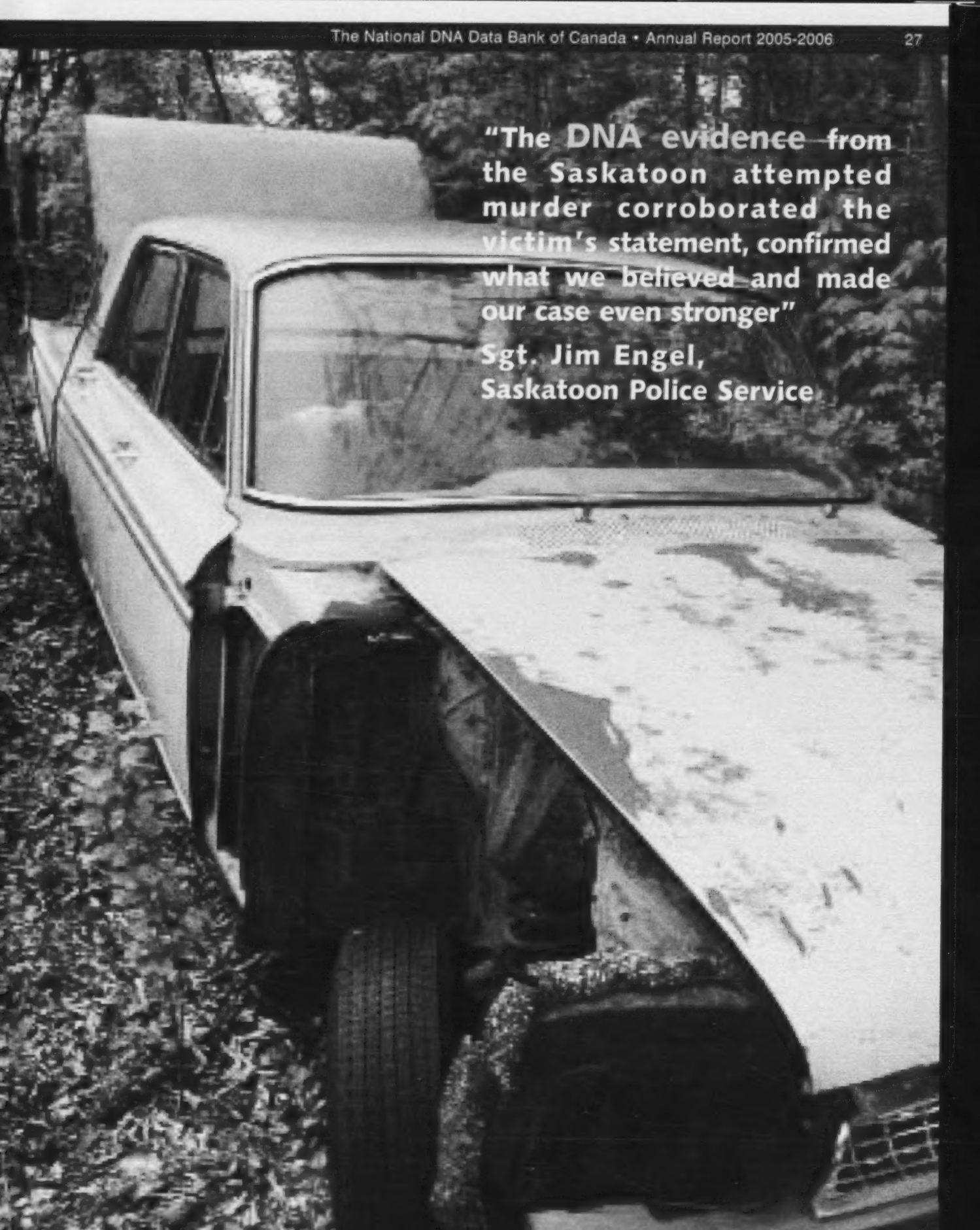
Forensic Laboratory Services for analysis. A comparison of the crime scene DNA profiles and Shawn's yielded a match. This supported the evidence that police were dealing with a homicide, not a missing person case.

Shortly after, a man walking down the street in Saskatoon was violently assaulted by two individuals who were apprehended and charged with attempted murder. DNA collection warrants were executed for the suspects in this case. The NDDB linked the DNA profile of one of the suspects in the Saskatoon case to the unknown DNA profile from the abandoned residence in Dawson Creek.

It was later confirmed that Shawn left the pub with the two suspects and proceeded to the residence. An argument ensued, and the victim was stabbed to death and dismembered. During the attack, one of the suspects cut himself, which became the key clue that allowed the NDDB to link the suspects to the crime scene.

The suspects in the attempted murder charge in Saskatoon were charged and convicted of the second degree murder of Shawn.

* name of victim changed



"The DNA evidence from the Saskatoon attempted murder corroborated the victim's statement, confirmed what we believed and made our case even stronger"

**Sgt. Jim Engel,
Saskatoon Police Service**

NDDB - Back to the Future

1984: Before DNA technology was known as a forensic identification tool, police investigators are called to a scene where the body of a 48 year-old woman has been found, 16 kilometres from her home. The Winnipeg Police Service (WPS) interview a number of persons of interest, but have no conclusive evidence to link anyone to the crime scene. Police file the crime scene evidence.

1998: The WPS re-opens the 1984 murder file as a cold case. Knowing that DNA has been used as a valid investigational tool since 1989, they submit crime scene evidence for DNA analysis. Police identify possible suspects and obtain biological samples for 14 of the suspects. The suspect's DNA profiles are compared manually against the crime scene evidence, but no match is made.

2000: The National DNA Data Bank begins operation. The crime scene DNA profile developed in 1998 is entered into the Crime Scene Index.

March, 2005: A new upload of convicted offender samples into the Convicted Offender Index yields a crime scene to convicted offender hit. The case is re-activated and the WPS Cold Case Unit works in conjunction with Correctional Services Canada, Hamilton Police Service and the RCMP.

The convicted offender whose DNA profile matched with the crime scene evidence is a 64 year-old male

serving a lengthy sentence at the Joyceville Penitentiary in Kingston. His DNA profile was entered into the Convicted Offender Index as a result of a sample collected following conviction for another crime.

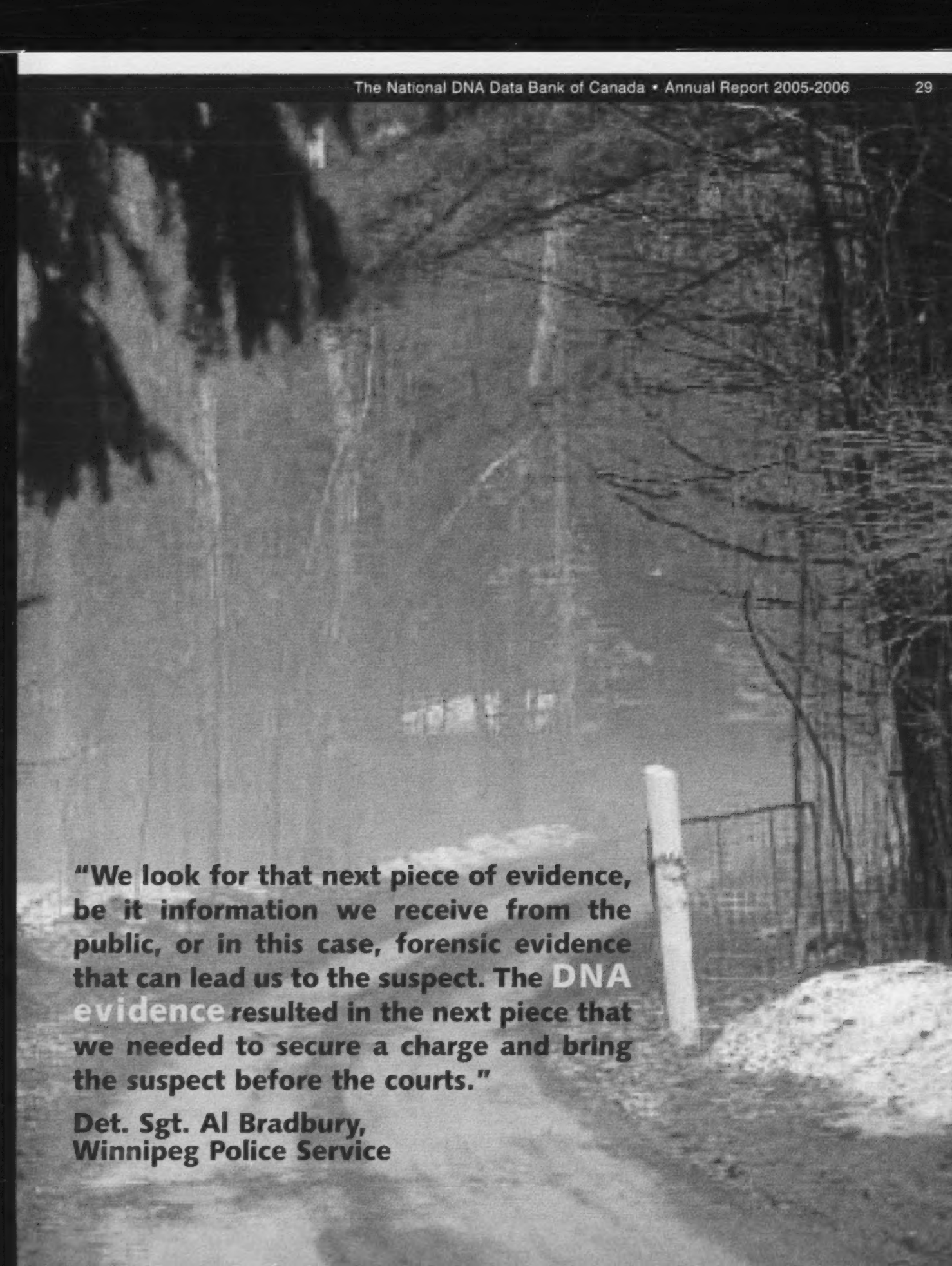
November, 2005: The suspect is returned to Manitoba and is charged with first degree murder in the case. Although the suspect was a person of interest in the original 1984 homicide investigation, this preceded the DNA legislation which would have allowed the collection of a biological sample from the suspect for DNA analysis.

Key Success Factors:

- Maintenance of crucial crime scene evidence by WPS,
- Follow-up by the Cold Case Unit,
- Submission of the DNA profiles to the NDDB Crime Scene Index,
- Submission of a convicted offender DNA profile to the Convicted Offender Index,
- Confirmation of a match through a DNA collection warrant secured by police.

The Result:

- Armed with new forensic tools, dedication, and good police work, justice is served across the boundary of time.

A grainy, black and white photograph of a wooded area. In the foreground, there is a fence made of vertical wooden posts and horizontal rails. The background is filled with the silhouettes of trees and branches, creating a dense, somewhat obscured view. The lighting is dim, giving the image a somber and mysterious feel.

"We look for that next piece of evidence, be it information we receive from the public, or in this case, forensic evidence that can lead us to the suspect. The **DNA evidence resulted in the next piece that we needed to secure a charge and bring the suspect before the courts."**

**Det. Sgt. Al Bradbury,
Winnipeg Police Service**

Police Join Forces to Identify Child Abductor

In June 1995, a nine year-old girl from Grand Prairie, Alberta was abducted on her way home from school. After forcing her into his vehicle, the perpetrator drove to an isolated area where he sexually assaulted the little girl. He then drove back to where he had abducted the girl and released her.

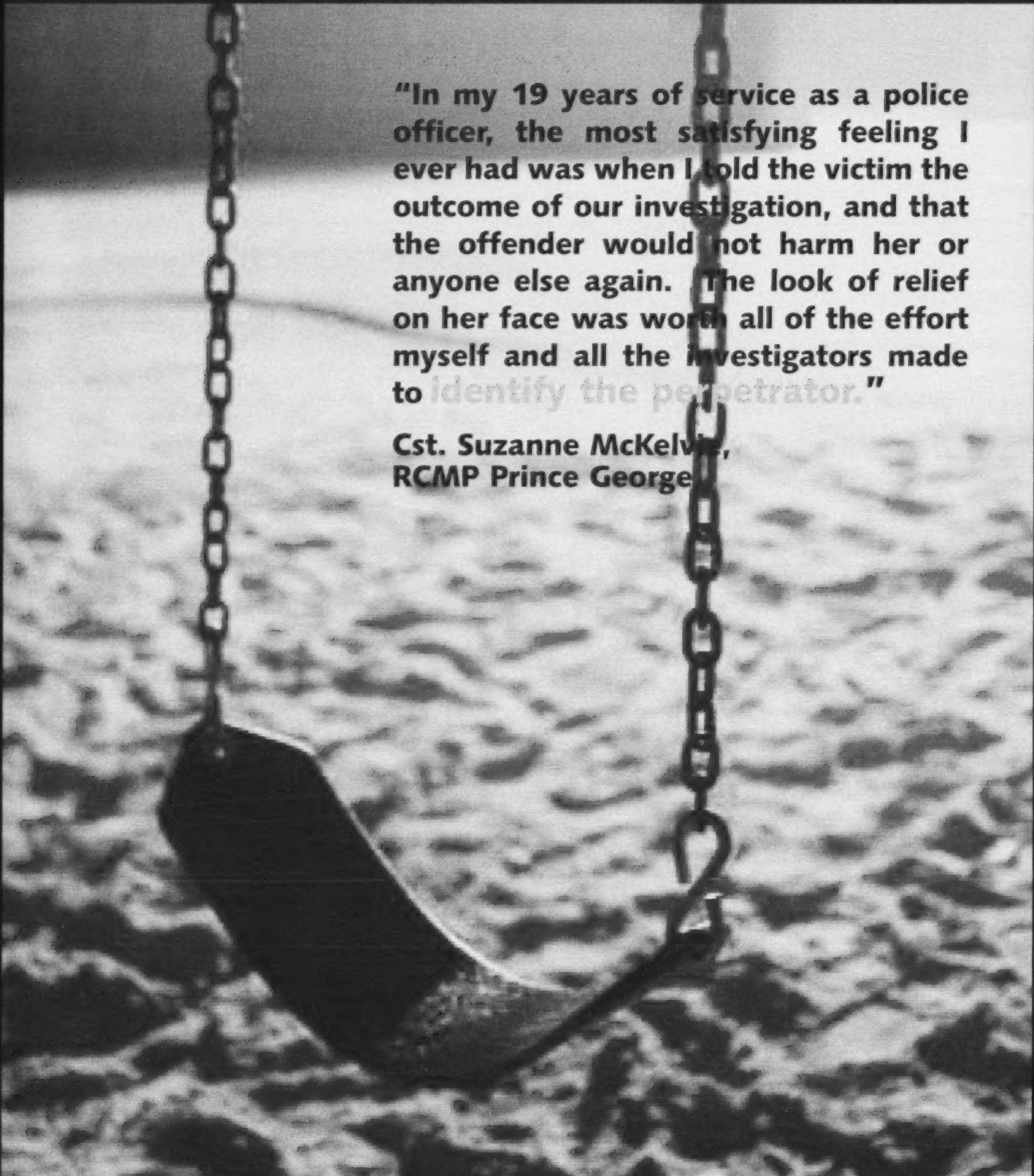
In February 1998, a similar crime occurred in Prince George, British Columbia when an eight year-old girl was abducted from outside a convenience store. The perpetrator drove to a rural area where he sexually assaulted the girl, and then drove off, leaving his young victim alone on the side of the road.

A coordinated investigation by officers in Grand Prairie and Prince George identified hundreds of persons of interest. Some of the suspects already had DNA profiles in the NDDB Convicted Offender Index and were cleared of suspicion when their DNA profiles didn't match evidence collected from the assaults.

The elimination of suspects helped police to focus their investigation, and good investigative techniques combined with forensic DNA casework helped to identify a single suspect. A warrant was obtained to collect a biological sample from the suspect, and the resulting DNA profile confirmed that the suspect's DNA matched with evidence collected from both sexual assaults.

Two days after investigators obtained the offender's biological sample through the use of the DNA warrant, the suspect committed suicide before he could be charged and brought to trial.

It was later learned that the offender had been convicted of a similar crime in Dawson Creek, British Columbia, in 1999. Unfortunately the *DNA Identification Act* was not proclaimed until June 2000, so his biological sample had not been collected at the time of his conviction, nor was the offender eligible for retroactive sample collection.



"In my 19 years of service as a police officer, the most satisfying feeling I ever had was when I told the victim the outcome of our investigation, and that the offender would not harm her or anyone else again. The look of relief on her face was worth all of the effort myself and all the investigators made to identify the perpetrator."

**Cst. Suzanne McKelvie,
RCMP Prince George**

60 Seconds to Commit the Crime - 6 Years to Pay for it

It was like a movie - a band of four thieves robbing a series of jewellery stores, waving guns at patrons and sometimes firing into the air. They were always in and out in less than 60 seconds, and made their get-away in a high-powered stolen vehicle.

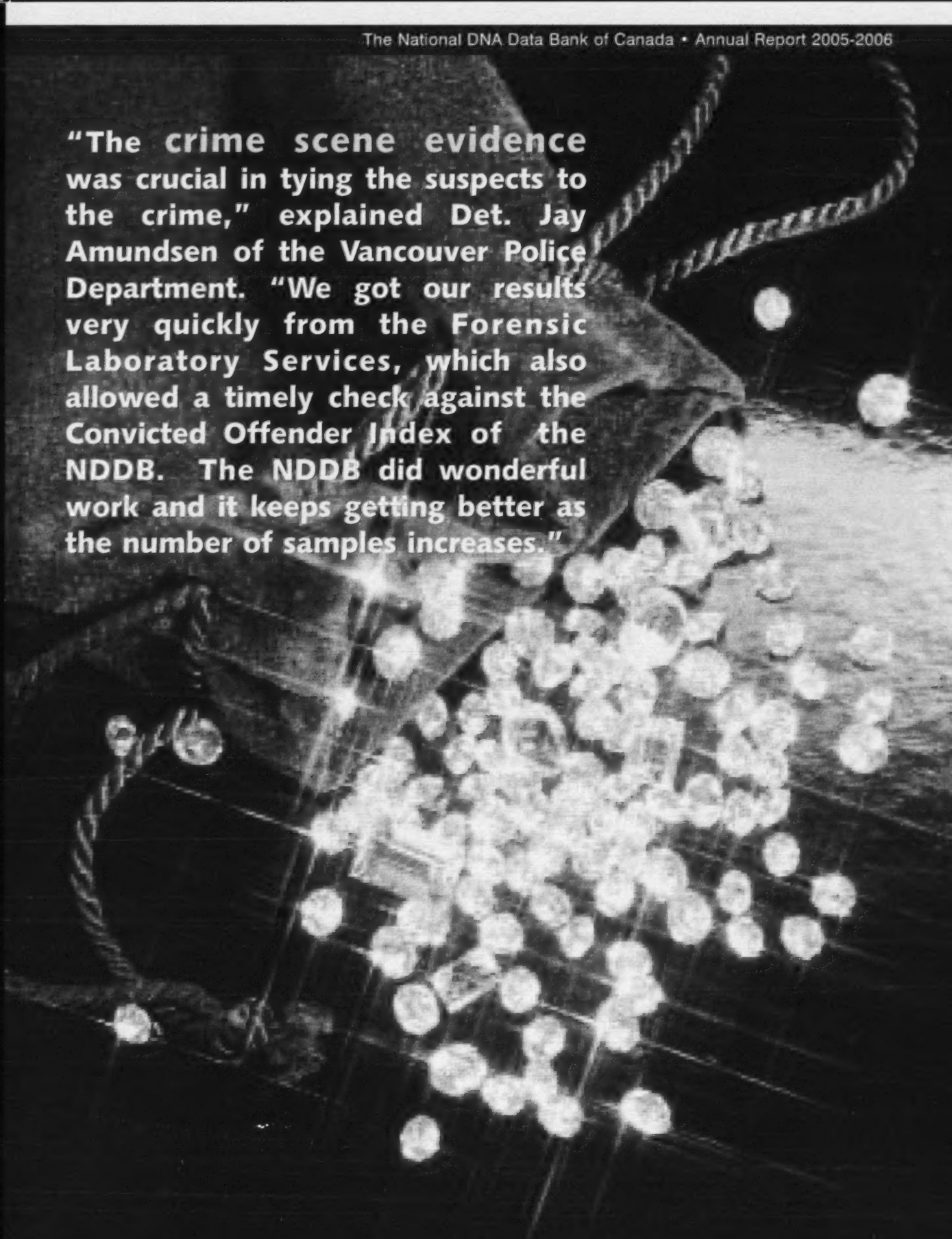
The difference was that this wasn't Hollywood, but British Columbia's lower mainland in the spring of 2001. There were eight robberies with a loss of \$1.4 million worth of expensive jewellery and high end watches.

The pattern was always the same; three masked and gloved suspects armed with firearms would enter the jewellery store. They would smash the display cases with hammers and steal the contents, while a fourth suspect would wait outside the store in a stolen, high powered get-away vehicle. They would flee and then abandon the vehicle a few blocks away from the robbery, along with their used clothing. A second vehicle was used to drive away.

A joint forces operation was conducted with the Vancouver Police Department and the RCMP detachments of Richmond, Burnaby, Surrey and Langley. After the police assessed the evidence to date, they identified that the best lead would be blood found on broken glass from one of the robberies. Other biological evidence was collected from the abandoned clothes, which police visually matched to the clothes worn by suspects on security camera footage.

This crime scene evidence was turned into DNA profiles which linked to three individuals in the Convicted Offender Index. Using castoff biological evidence collected through suspect surveillance, police were able to conclusively link the suspects to the crimes.

Three suspects were arrested, tried and convicted for four of the eight robberies. They were each sentenced to six to eight years in prison.



"The crime scene evidence was crucial in tying the suspects to the crime," explained Det. Jay Amundsen of the Vancouver Police Department. "We got our results very quickly from the Forensic Laboratory Services, which also allowed a timely check against the Convicted Offender Index of the NDDB. The NDDB did wonderful work and it keeps getting better as the number of samples increases."

Appendix A

Primary Offences

OFFENCE	SECTION
1 Approaching, entering, etc., a prohibited place	6 SIA*
2 Threats or violence	(20)(1) SIA*
3 Harboring or concealing (Security of Information)	(21)(1) SIA*
4 Piratical acts	75
5 Hijacking	76
6 Endangering safety of aircraft or airport	77
7 Seizing control of ship or fixed platform	78.1
8 Using explosives	81(1)
9 Participation in activity of terrorist group	83.18
10 Facilitating terrorist activity	83.19
11 Commission of offence for terrorist group	83.2
12 Instructing to carry out activity for terrorist group	83.21
13 Instructing to carry out terrorist activity	83.22
14 Harboring or concealing (Terrorism)	83.23
15 Sexual interference	151
16 Invitation to sexual touching	152
17 Sexual exploitation	153
18 Incest	155
19 Offence in relation to juvenile prostitution	212(4)
20 Infanticide	233
21 Murder	235
22 Manslaughter	236
23 Causing bodily harm with intent	244
24 Assault with a weapon or causing bodily harm	267
25 Aggravated assault	268
26 Unlawfully causing bodily harm	269
27 Sexual assault	271
28 Sexual assault with a weapon, threats to a third party or causing bodily harm	272
29 Aggravated sexual assault	273
30 Kidnapping	279
31 Hostage taking	279.1
32 Attack on premises, residence or transport of internationally protected person	431
33 Attack on premises, accommodation or transport of United Nations or associated personnel	431.1
34 Explosive or other lethal device	431.2(2)
<i>As they read from time to time before January 4, 1983:</i>	
35 Rape	144
36 Sexual intercourse with female under fourteen and between fourteen and sixteen	146
37 Sexual intercourse with feeble-minded, etc.	148
<i>As it read from time to time before January 1, 1988</i>	
38 Sexual intercourse with step-daughter, etc.	153.1(a)

Appendix B

Secondary Offences		
	OFFENCE	SECTION
1	Bestiality in the presence of or by child	160(3)
2	Child pornography	163.1
3	Parent or guardian procuring sexual activity	170
4	Indecent acts	173
5	Causing death by criminal negligence	220
6	Causing bodily harm by criminal negligence	221
7	Dangerous operation causing bodily harm	249(3)
8	Dangerous operation causing death	249(4)
9	Failure to stop at scene of accident	252
10	Impaired driving causing bodily harm	255(2)
11	Impaired driving causing death	255(3)
12	Assault	266
13	Torture	269.1
14	Assaulting a peace officer	270(1) (a)
15	Robbery	344
16	Breaking and entering with intent, committing offence or breaking out	348(1)
17	Mischief that causes actual danger to life	430(2)
18	Arson – Disregard for human life	433
19	Arson- Own property	434.1
<i>As they read from time to time before July 1, 1990:</i>		
20	Arson	433
21	Setting fire to other substance	434

Note to Appendix B

Note: An attempt to commit or, other than for the purposes of subsection 487.05(1), a conspiracy to commit any of the offences mentioned in the above list is also considered a secondary designated offence.

Notes to Appendix A



*SIA : Security of Information Act

Note: An attempt to commit or, other than for the purposes of subsection 487.05(1), a conspiracy to commit any of the offences mentioned in the above list is also considered a primary designated offence.

